Can allergy be cured?

Paul Carson looks at the role of immunotherapy as a means of reducing allergy or even completely stopping reactions

Currently, allergy management involves avoidance of what you are allergic to combined with treating the symptoms. For example, in asthma due to dust mite sensitivity, special mattress covers and low allergy pillows are advised, while the coughing and wheezing is suppressed with inhalers, etc. With hayfever, the sufferers stay indoors during the warm, sunny days and take antihistamines.

However, while such manoeuvres and treatments are indeed very effective (and often life-saving) they do not alter your patient’s allergic status. In other words, he/she is still allergic to dust mites or pollen and still gets into trouble if the avoidance measures and treatments are relaxed or stopped. For almost all allergy sufferers this means many years (even a lifetime) of taking antihistamines, nose and chest inhalers with special anti-allergy drops and tablets for severe flare-ups.

Reducing ‘allerginess’

Now a new therapy (or rather an old therapy updated) offers the chance to significantly reduce ‘allerginess’ and maybe even completely stop reactions. Immunotherapy is where your patient takes exactly what he/she is allergic to but in a modified form. In the past this involved subcutaneous injections and had to be administered by a doctor. Then, following a number of fatalities in the 1980s, the treatment more or less ceased in the UK and Ireland after very strict guidelines for use came in to effect. However, to paraphrase a well-known Northern politician, ‘it hasn’t gone away, you know’ and now it’s back.

SLIT (sub-lingual immunotherapy) is now available as drops placed under the tongue and held there for two minutes.

In medical jargon, allergen immunotherapy blocks the allergic reaction well upstream of the inflammatory response and may even prevent nasal allergy (rhinitis) deteriorating to lung allergy (asthma). Moreover, its beneficial effect persists long after the end of the course of therapy. Finally, the sublingual route bypasses many of the potential hazards of conventional immunotherapy (ie. subcutaneous injection), meaning that it is suitable for a broader range of patients.

The mechanism of action of SLIT has still not been fully elucidated but is believed to induce the following phenomena:

• Possible reduction in specific IgE antibodies
• Modification of the behaviour of cells involved in the allergic reaction
• Modulation of the activities of Th1 and Th2 lymphocytes leading to changes in the levels of cytokines which regulate IgE production.

There is the hypothesis that dendritic cells (which are particularly dense in the buccal mucosa) play a major role in SLIT by:

• Acting as potent antigen-presenting cells
• Producing IL-12 which promotes the development of Th1 lymphocytes
• Carrying a high density of high-affinity IgE receptors on their surface and are therefore able to stimulate the large numbers of T cells present in the buccal mucosa
• Internalise allergenic molecules when exposed to them in tissue culture, and this very rapidly and in a dose-dependent fashion.

Taken together, these observations strongly suggest that dendritic cells in the buccal mucosa could play a key role in SLIT activity (this may mean something to those of you with a strong scientific background. Personally I don’t understand most of it. I work on allergy at a level I can grasp on a practical day-to-day level).

Allergen immunotherapy is especially helpful with seasonal pollen hay fever, as well as all-year-round nose, eye and chest allergy due to a dust mite and pollen combination. Animal hair allergy can be dealt with in this way but I still feel it’s wiser to avoid the animal. However, where the animal hair exposure is impossible or career-threatening (jockeys, vets etc) it’s worth considering as a treatment plan.

Allergen immunotherapy

Allergen immunotherapy will:

• Reduce symptoms significantly
• Reduce the amount of medication needed for comfort and relief
• Reduce nose and chest sensitivity to allergen irritation
• Reduce the risk of developing other allergies (especially important in young children with, say a dust mite allergy, where there is concern that pollen, mould or animal hair allergy may also develop in time)

General indications

• Allergic disease, of which the sensitisation mechanism is IgE-dependent and for which the responsible allergen or allergens are clearly identified
• Significant disability, warranting daily pharmacotherapy for extended periods of time
• Drugs only partially effective or inducing undesirable side effects
• Measures aimed at avoiding the allergen either proving difficult to implement or ineffective
• Potentially serious rhinitis and/or asthma, or deterioration probable in the medium or long-term
• Patient motivated and likely to be compliant.
Allergy Carson-NH2  02/01/2007  15:48  Page 2

**Allergen-specific considerations**

- Intermittent (seasonal) rhinitis and/or asthma: immunotherapy can be considered if the clinical picture has been degenerating over the two preceding seasons and if drugs are failing to provide adequate relief.
- Persistent (non-seasonal or perennial) rhinitis and/or asthma (e.g. to house dustmites, cats, fungi, etc.): immunotherapy is recommended if the symptoms have been deteriorating for over six months.

**Age-related considerations**

This type of treatment should be initiated in children and young adults as soon as it is justified by the seriousness of the allergic symptoms.

In those of over 50 years of age, immunotherapy is still indicated but only if sensitisation occurred recently.

**General contraindications**

- Serious immunodeficiency
- Intercurrent malignancy
- Beta-blocker treatment (even in a topical form, e.g. eye drops)
- Severe, uncontrolled asthma (FEV1 < 70% of the normal reading, even after drug treatment)
- Patient likely to be non-compliant

**Relative contraindications**

- Children of under 5 years of age
- Pregnancy (during the initial phase of treatment).

Allergen immunotherapy is the only course of treatment that can modify the natural course of allergic disease and its efficacy is assessed on the basis of a number of different end points:

- Symptom scores (assessed using standard scales)
- Drug consumption
- The improvement of allergen-specific nasal and bronchial hyper-reactivity.

That allergen immunotherapy is an effective way of treating allergic rhinitis and asthma has been demonstrated in a series of double blind, placebo-controlled clinical trials. Immunotherapy has been demonstrated to be effective in seasonal forms of rhinitis due to grass pollen, ragweed, and tree pollen, and also against perennial allergic rhinitis caused by house dust mites and animal hair.

Also, immunotherapy significantly reduces allergen-specific nasal and ocular reactivity (nasal congestion and pruritus, sneezing, watering of the eyes, etc.) and this is accompanied by an improvement in the clinical picture and reduced drug consumption.

In my own practice, this therapy is now offered to patients with dust mite and/or grass/tree pollen allergy. Because the therapy is not yet licensed by the Irish Medicines Board, patients cannot claim purchase expenses under the Drugs Refund Scheme. However, I am making representations to the Revenue Commissioners to accept costs as tax-deductible in end-of-year returns.

The product has the trade name Staloral and is manufactured by Stallergenes and you can check this company through their website www.stallergenes.com

**How is Staloral administered?**

There is an induction phase where the dosage of drops is increased every day for six days to a maximum strength. This maximum strength is then continuously administered either daily or three times a week ongoing. Ongoing may mean between three to five years in the case of dustmite allergy or three (minimum) to five (ideal) seasons for grass pollen allergy. This may sound like a very long time to take treatment but if it reduces the use of other medicines, significantly improves symptoms and possibly even induces a final cure it is worth the time and effort (and expense).

**Safety**

The allergy products used in SLIT have been thoroughly tested. Over 12 years, nearly 1 million treatments – corresponding to a total of 500 million doses – of Staloral have been administered. Not one serious, generalised body reaction has been reported. Any side-effects reported were minor and of little significance (usually itching in the mouth, swelling of the lips, abdominal cramps). Rarely, cough, nasal irritation or asthma may be exacerbated. If this does happen it’s as well to adjust downwards the next dose.

**Cost**

- Initial induction: four vials/10ml with dispensing pump - 3.5 months treatment: £179.10stg
- Maintenance: 3 vials/10mls with dispensing pump – three months treatment: £179.10stg (this does not include VAT) postage & packaging £7.90stg.

**At what age is it safe to use Staloral?**

Staloral is licensed for use in children aged five years and over. My own feeling (based on past experience on using injection immunotherapy) is that the benefits are best seen in young patients. Patients 30 to 40 years may achieve results while in people aged 50 or over such therapy is probably not going to offer any extra benefit compared to standard anti-allergy medicines.

By this stage the disease (rhinitis and/or asthma) is probably so well-established that drug therapy alone will maintain good control.

**Why recommend Staloral?**

Staloral is the only therapy that offers the chance to significantly reduce or even stop anti-allergy medicines. More often than not, anti-allergy treatments are used daily for years, even for a lifetime. Anything safe and effective that might ease the considerable drugs burden is worth considering. The commitment to treatment is vital and it is important to explain to your patient that he/she will be embarking on a minimum of three and possibly five years of Staloral.

My contact for Staloral is: Elo Elmaa, Medelo, Harwell Innovation Centre, 173 Curie Avenue, Harwell International Business Centre, Didcot OX 11 0QG, UK. They will provide an information pack on request.

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